

Serial No. 09/509,872
Art Unit 2619

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PATENT

Agent's Docket No. 98784-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| In re Application of |) | |
| |) | |
| DUNCAN, Ian H. et al. |) | |
| |) | |
| Serial No: 09/509,872 |) | Art Unit: 2619 |
| |) | |
| Filed: September 11, 2000 |) | Examiner: NGUYEN, Steven H D |
| |) | |

For: **METHOD AND APPARATUS FOR FORWARDING PACKETS**

April 4, 2008

Commissioner for Patents
U.S. Patent and Trademark Office
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

This is an appeal from the final rejection mailed September 6, 2007 of claims 1-8 and 11-21 of the application identified above.

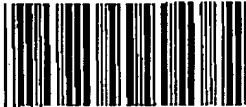
(1) Real Party in Interest

The Real Party in Interest in the present Appeal is Alcatel Canada Inc., the assignee, as evidenced by the assignment attached as Appendix A to this Brief, by the change of name document set forth at Reel 015574, Frame 0659, and by the change of name document set forth at Reel 015685, Frame 0803.

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| TRANSMITTAL LETTER (General Patent Pending) | | | Docket No. 98784-US |
| In Re Application Of: Ian DUNCAN, et al. | | | |
| Serial No. 09/509,872 | Filing Date September 11, 2000 | Examiner. NGUYEN, Steven H D | Group Art Unit 2619 |
| Title: METHOD AND APPARATUS FOR FORWARDING PACKETS | | | |
| <p style="text-align: center;"><u>TO THE ASSISTANT COMMISSIONER FOR PATENTS:</u></p> <p>Transmitted herewith is:</p> <ul style="list-style-type: none">- Appeal Brief- Fee Transmittal (in duplicate)- Certificate of Transmission by Facsimile (2) <p>In the above identified application.</p> <p><input type="checkbox"/> No additional fee is required.</p> <p><input type="checkbox"/> A check in the Amount of _____ is attached.</p> <p><input checked="" type="checkbox"/> The assistant Commissioner is hereby authorized to charge and credit Deposit Account No. 13-1717 as described below. A duplicate copy of this sheet is enclosed.</p> <p><input checked="" type="checkbox"/> Charge the amount of \$510.00</p> <p><input checked="" type="checkbox"/> Credit any overpayment.</p> <p><input checked="" type="checkbox"/> Charge any additional fee required.</p> <p style="text-align: right;">Dated: April 4, 2008</p> <p><i>S. Mark Budd</i> Signature</p> <p>S. Mark Budd 53,880</p> <p>Marks & Clerk Canada P.O. Box 957 Station B Ottawa, ON, K1P 5S7 Phone: (613) 236-9561</p> <p style="text-align: center;"> * 2 3 5 5 3 *</p> <div style="border: 1px solid black; padding: 5px;"><p>I certify that this document and fee being deposited on _____ with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.</p><p>_____ Signature of Person Mailing Correspondence</p><p>_____ Typed or Printed Name of Person Mailing Correspondence</p></div> | | | |

P16A/REV01

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(2) Related Appeals and Interferences

There are no related appeals and interferences.

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(3) Status of Claims

Claims 1-8 and 11-21 stand finally rejected by the Examiner as noted in the Final Action mailed September 6, 2007 and in the Advisory Action mailed January 18, 2008. Claims 9-10 and 22 are cancelled. The rejection of claims 1-8 and 11-21 is appealed.

(4) Status of Amendments

No amendments have been submitted subsequent to the Final Action.

(5) Summary of Claimed Subject Matter

In claim 1, the invention relates to a method of forwarding packets in a communication system having multiple incoming service interfaces and multiple output service interfaces (Figure 1, SI's; p. 19 lines 1-3; p. 20 lines 22-23) for providing service to multiple distinct and isolated user networks (Figure 1, Realms A-E; p. 2 lines 3-5). Multiple forwarding rules are maintained (p. 10 lines 2-4; p. 16 lines 12-15; p. 27 lines 6-9 and 14-17), the forwarding rules being based on routing topology and policing information (p. 31 lines 10-14) relevant to each of the distinct and isolated user networks (p. 25 lines 12-16)). The packets are received at one of the incoming service interfaces (p. 19 lines 1-3; p. 22 lines 22-24). An appropriate forwarding rule is selected based on a source address in said packets and on the incoming service interface from which the packets are received (p. 31 lines 15-20). The packets are forwarded to one of the output service interfaces (p. 25 lines 3-5; p. 25 lines 12-16), the decision as to which output service interface to forward the packets to being based on a destination address in the packets (p. 31 lines 16-19) and information in said selected forwarding rule (p. 25 lines 15-16; p. 32 lines 17-19).

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In claim 8, the invention relates to a packet forwarding entity for a communication system. Multiple service interfaces (Figure 1, SI's; p. 19 lines 1-3; p. 20 lines 22-23) provide instances of service to one of a plurality of distinct and isolated user networks Figure 1, Realms A-E; p. 2 lines 3-5). Multiple route servers (p. 31 line 10) calculate multiple forwarding rules (p. 31 lines 10-14) relating to instances of service to which said service interfaces belong (p.27 lines 6-9 and 14-15) based on routing, topology and policing information (p. 31 lines 10-14), the multiple forwarding rules being particular to their respective service interfaces (p. 27 lines 6-9 and 14-15; p. 31 lines 16-17). Edge forwarders direct said service interfaces to user networks based on information in said forwarding rules (p. 25 lines 12-16).

The claimed invention allows autonomous user networks (called "realms" in the description) to share core network facilities. The service interfaces are bound to realms (p. 24 lines 11-14). Each forwarder forwards packets based in part on the service interface over which the packets arrive, which ties the packets to a realm, using forwarding rules appropriate to the realm of the packets (p. 25 lines 12-16). The realms are therefore autonomous, in that no forwarding or routing information is shared between the realms. This allows the realms to have non-unique address spaces if required (p. 43 lines 19-25). In other words, two realms can use the same destination address for packets yet the forwarding rules are such that the forwarders will send the packets to different destinations depending on the realm of the service interface over which each packet arrived. For example, a packet from realm A can have destination address aa.bb.cc.dd, and a packet from realm B can have the same destination address aa.bb.cc.dd. However, since the forwarding rule is selected based also on the service interface over which the packet is received, the packet from realm A is forwarded to an outgoing service interface also tied to realm A and the packet from realm B is forwarded to an outgoing service interface also tied to realm B. The user networks A and B are thereby isolated, even though a single forwarder may process traffic from both user networks and even though packets from both user networks contain the same destination address.

(6) Grounds of Rejection to be Reviewed on Appeal

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Ground I

The Examiner rejected claims 1 and 8 under 35 U.S.C. 112, first paragraph, on the grounds that the claims contain subject matter not described in the specification. In particular, the Examiner stated that the specification does not disclose selecting an appropriate forwarding rule based on a source address in the packets and on the incoming service interface from which the packets are received (Examiner's emphasis), as recited in claim 1, and that the specification does not disclose that the forwarding rules relating to instances of services calculated by the multiple route servers are particular to their respective service interfaces (Examiner's emphasis).

Ground II

The Examiner rejected claims 1-8 and 11-21 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,085,238 (Yuasa) in view of U.S. Patent 5,825,772 (Dobbins) and U.S. Patent 5,845,091 (Dunne).

(7) Arguments

Ground I

The limitations which the Examiner contends lack support were added to claims 1 and 8 on March 13, 2007 in response to the Office Action dated September 13, 2006. In the response dated March 13, 2007, the Applicant clearly explained that support for the new limitations was found at p. 31 lines 14-20. Support is also found elsewhere throughout the description, which clearly explains the relationship between realms, forwarding rules, and service interfaces. For example:

- p. 25 lines 12-16: forwarders use rules appropriate to the realm of the packet
- p. 29 lines 10-14: forwarders learn how to forward traffic for a service interface from the route servers
- p. 30 lines 24-26: routers tell forwarders how service interfaces are bound to realms

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- p. 31 lines 10-20: the forwarding information provided by route servers to forwarders includes services interfaces
- p. 43 lines 18-25: realms are autonomous and can have non-unique address spaces
- p. 45 lines 21-25: IP forwarding uses service interfaces
- Figure 1: a clear relationship between realms and service interfaces

The Applicant therefore respectfully submits that the subject matter of claims 1 and 8 is supported by the description as originally filed.

Ground II

Claim 1 includes the feature of maintaining multiple forwarding rules, said forwarding rules based on routing topology and policing information relevant to each of said distinct and isolated user networks. The Examiner states that this feature is taught by Dobbins at Figure 7, at column 17 lines 22 to 43, and at column 13 lines 48 to 59. However, the Applicant submits that Dobbins is not teaching maintaining multiple forwarding rules based on routing topology and policing information relevant to each of multiple distinct and isolated user networks. Figure 7 and column 17 lines 22 to 43 explicitly describe an "access rule", and not a forwarding rule. The access rule taught by Dobbins is simply a set of conditions which must be met for a connection to be established, and is can not be considered a forwarding rule as the access rule is not used in anyway to determine to where a packet is to be forwarded. As can be seen from Figure 7b and steps 103-107 of Figure 7a of Dobbins, the purpose of the access policy rule is for the ingress switch to determine whether a connection is to be established or whether the packet is to be dropped. If the destination address and the source address are on the same VLAN or if they both share an "open" policy, and if the destination address and the source address are not on the same port, then a connection is established. Otherwise, the packet is dropped.

Dobbins does teach use of routing topology at column 13 lines 48 to 59. However, this has nothing to do with application of the access rule. The distinct treatment of the access rule from the routing topology as taught by Dobbins means that when a packet arrives, the access rule is applied to determine whether the source of the packet and the

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destination of the packet are such that the delivery of the packet is permitted. If the source of the packet and the destination of the packet are on the same VLAN, or if both the source of the packet and the destination of the packet have OPEN policies, then the connection is established. Otherwise, the connection is not established.

Only if the connection is established is routing topology then taken into account in determining a complete path from the source to the destination. Determination of the path using routing topology is done completely independently of the access rule.

In summary, the access rules of Dobbins are used to decide whether to forward a packet to its destination address based on its source address in order to implement VLANs, and not where to forward a packet. No decision of a forwarding rule among multiple forwarding rules based on incoming service interface is made.

Claim 1 also includes the feature of selecting an appropriate forwarding rule based on a source address in said packets and on the incoming service interface from which the packets are received. The Examiner states (beginning at the last line of p. 3 of the Final Action) that Dobbins teaches this element at column 17 lines 22-43. However the Examiner's explanation of this passage of Dobbins states only that the forwarding rule is selected based on the source address, and Dobbins does not teach selecting a rule based on the incoming service interface from which the packets are received. This is important, since this feature of claim 1 allows two of the multiple distinct and isolated user networks to use the same source address and yet still have the forwarding destination of the package be particular to the isolated user network since the service interface over which a packet arrives is tied to the isolated user network and to a set of forwarding rules.

The Examiner also states that this element is taught by Dunne at element 1305 of Figure 13, which teaches selecting forwarding rules based on source IP address. The Examiner states that Dunne teaches that this selection is based also on the incoming service interface by stating simply that Dunne "implicitly discloses forwarding rule is selected by input interface which the packet is received". However, contrary to the Examiner's assertion, there is nothing which implies selecting a forwarding rule based on the incoming service interface from which the packet is received. Dunne teaches only that the

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forwarding list is selected based on the source IP address (text of box 1305 of Figure 13; column 6 lines 10-12). Dunne does not disclose selecting a forwarding rule based on the incoming service interface, and there is no suggestion in Dunne that this should be done.

As explained at column 4 lines 27 to 32, the goal of the multiple forwarding rules of Dunne is to provide for multiple paths to a destination, possibly so as to allow a user to choose which of the multiple paths to choose. Referring to Figure 12 and column 5 line 45 to column 6 line 5, it is seen that Dunne distinguishes the originating subnetworks A-F only by their respective IP addresses: "By expanding the criteria of the described function to include the source IP address, a forwarding list may be separately defined for each of the subnetworks A-F". The multiple forwarding rules allow packets from subnetwork A to be forwarded to network 1206 via router 1221, and packets from subnetwork B to be forwarded to network 1206 via router 1222. Since packets from each subnetwork can be forwarded to the same destination network, the subnetworks are not "distinct and isolated" and the multiple forwarding rules of Dunne serve a completely different purpose than those of claim 1 of the present application. There is therefore no need to consider anything other than the source IP address when selecting a forwarding rule, as Dunne considers this sufficient to distinguish the originating subnetworks A-F. In contrast, because claim 1 of the present application considers the incoming service interface from which a packet is received when selecting a forwarding rule, distinct and isolated user networks are enabled, and allow each distinct and isolated user network to re-use destination addresses and source addresses. Selecting an appropriate forwarding rule based on the incoming service interface from which a packet is received is not taught by Dunne or even suggested by Dunne, and is in no way implied by Dunne since Dunne presents no reason why one would want to do this.

Since the Examiner has not shown where each and every element of claim 1 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 1.

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Claim 2 is dependent on claim 1 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 2 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 2.

Claim 3 is dependent on claim 1 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 2 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 3.

Claim 4 is dependent on claim 1 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 2 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 4.

Claim 5 is dependent on claim 1 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 2 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 5.

Claim 6 is dependent on claim 1 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 2 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 6.

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Claim 7 is dependent on claim 1 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 2 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 7.

Claim 8 includes the limitation of multiple route servers for calculating multiple forwarding rules, the multiple forwarding rules being particular to their respective service interfaces. The Examiner states that Dobbins teaches multiple route servers for calculating multiple forwarding rules, the multiple forwarding rules being particular to their respective service interfaces and edge forwarders at Figure 19, elements 195 and 191. However Figure 19 only shows a network of VLAN access switches (elements 191) and local directories (elements 195). The discussion of Figure 19 from column 20 line 51 to column 21 line 41 does not mention multiple forwarding rules.

The Examiner also states that Dunne teaches "forwarding rules relating to instances of service to which said service interfaces" [*sic*], in particular at column 6 lines 7-14 and Figures 13 elements 1305 and 1310 which the Examiner states disclose that "the forward list is selected based on the received packet". However, "selected based on the received packet" is not the same as calculating a forwarding rule particular to a service interface. Element 1305 of Figure 13 shows merely "Select list based on source IPO address", and does not mention service interfaces. Element 1310 of Figure 13 shows merely "Access forwarding list to determine path", and does not mention service interfaces. Column 6 lines 7-14 describe Figure 13, and state simply that "the routing engine selects a list based on the source IP address of the received packet", and does not mention service interfaces. As discussed above with reference to claim 1, the fact that the forwarding rules of claim 8 are particular to their respective service interfaces is important because it allows distinct and isolated user networks and allows each distinct user network to share destination addresses and source addresses while still isolating the user networks (i.e. packets from one realm stay within the realm).

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Since the Examiner has not shown where each and every element of claim 8 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 8.

Claim 11 is dependent on claim 8 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 11 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 11.

Claim 12 is dependent on claim 8 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 12 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 12.

Claim 13 is dependent on claim 8 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 13 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 13.

Claim 14 is dependent on claim 8 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 14 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 14.

Claim 15 is dependent on claim 8 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has

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not shown where each and every element of claim 15 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 15.

Claim 16 is dependent on claim 8 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 16 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 16.

Claim 17 is dependent on claim 8 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 17 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 17.

Claim 18 is dependent on claim 8 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 18 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 18.

Claim 19 is dependent on claim 8 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 19 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 19.

Claim 20 is dependent on claim 8 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 20 is taught or suggested by Yuasa,

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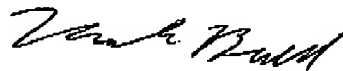
Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 20.

Claim 21 is dependent on claim 8 and includes all the limitations discussed above and which are not taught by the references cited by the Examiner. Since the Examiner has not shown where each and every element of claim 21 is taught or suggested by Yuasa, Dobbins, or Dunne, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 21.

Conclusion

In conclusion, the Examiner erred in rejecting claims 1-8 and 11-21, and should be reversed.

Respectfully submitted,



S. Mark Budd, Reg. No. 53,880
Attorney for the Appellant

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(8) Claims Appendix

1. A method of forwarding packets in a communication system having multiple incoming service interfaces and multiple output service interfaces for providing service to multiple distinct and isolated user networks, said method comprising:
 - maintaining multiple forwarding rules, said forwarding rules based on routing topology and policing information relevant to each of said distinct and isolated user networks;
 - receiving said packets at one of said incoming service interfaces;
 - selecting an appropriate forwarding rule based on a source address in said packets and on the incoming service interface from which the packets are received; and
 - forwarding said packets to one of said output service interfaces, the decision as to which output service interface to forward the packets to being based on a destination address in said packets and information in said selected forwarding rule.
2. The method as defined in claim 1 wherein said service interfaces support realms, each realm relating to a specific instance of an internetworking service function.
3. The method as defined in claim 2 wherein said specific instance is a public Internet access service.
4. The method as defined in claim 2 wherein said specific instance is a virtual private network (VPN) service.
5. The method as defined in claim 4 wherein said VPN service is a bridged and/or routed connectivity service.
6. The method as defined in claim 4 wherein said VPN service is a network layer connectivity service.

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7. The method as defined in claim 1 wherein said communication system includes an ATM transport fabric.
8. A packet forwarding entity for a communication system comprising:
 - multiple service interfaces providing instances of service to one of a plurality of distinct and isolated user networks;
 - multiple route servers for calculating multiple forwarding rules relating to instances of service to which said service interfaces belong based on routing, topology and policing information, the multiple forwarding rules being particular to their respective service interfaces; and
 - edge forwarders to direct said service interfaces to user networks based on information in said forwarding rules.
11. The packet forwarding entity as defined in claim 8 wherein said service interfaces related to physical and logical connections.
12. The packet forwarding entity as defined in claim 11 wherein said logical connections include multiple traffic flows from one or more ingress ports.
13. The packet forwarding entity as defined in claim 8 wherein one of said instances of service is an internetworking service function.
14. The packet forwarding entity as defined in claim 13 wherein said internetworking service function is a Public Internet access service.
15. The packet forwarding entity as defined in claim 13 wherein said internetworking service function is a virtual private network (VPN) service.
16. The packet forwarding entity as defined in claim 15 wherein said VPN service is a bridged and/or routed connectivity service.

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17. The packet forwarding entity as defined in claim 16 wherein said internetworking service function is provided over an ATM network.
18. The packet forwarding entity as defined in claim 16 wherein said internetworking service function supports multiple protocols.
19. The packet forwarding entity as defined in claim 18 wherein said internetworking service function provides services at both the packet and frame levels.
20. The packet forwarding entity as defined in claim 19 wherein said internetworking service function is managed by a single service provider.
21. The packet forwarding entity as defined in claim 18 wherein said multiple protocols include Multi-protocol over ATM (MPOA) service via a MPOA client lookup cache management function.

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(9) Evidence Appendix

There is no exhibit for this appendix.

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(10) Related Proceedings Appendix

There are no related proceedings, and accordingly no exhibit for this appendix.

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Appendix A

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ASSIGNMENT

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In consideration of one dollar (\$1.00) and other good and valuable consideration, the receipt of which is hereby acknowledged, paid to me by:

Newbridge Networks Corporation

(hereinafter referred to as the assignee) whose full post office address is:


**600 March Road, P.O. Box 13600, Kanata, Ontario K2K 2E6,
CANADA**

I do hereby sell and assign to the said assignee all my right, title, and interest in Canada and all foreign countries in and to my invention relating to:

**MULTIPLE INTERNETWORKING REALMS WITHIN AN
INTERNETWORKING DEVICE**

and all my corresponding right, title, and interest in and to any patent which may issue therefor.

Signed at Kanata, Ontario this 30th day of
October 1997

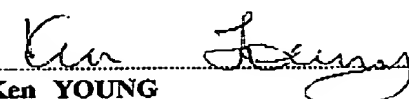


Ian H. DUNCAN



(witness)

Signed at Kanata, Ontario this 30th day of
October 1997

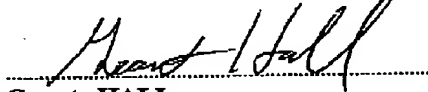


Ken YOUNG

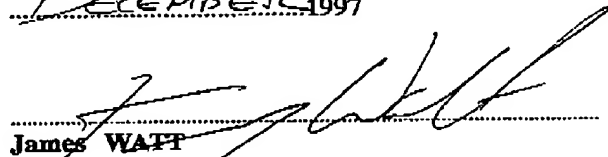


(witness)

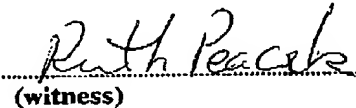
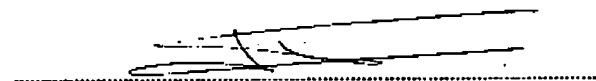
MARKS & CLERK

Signed at Kanada this 15 day ofFeb 1998 GH

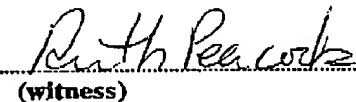
Grant HALL


(witness)Signed at KANATA this 23RD day ofDECEMBER 1997

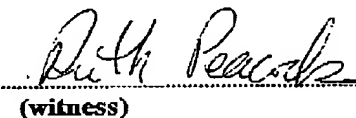
James WATT


(witness)Signed at KANATA this 18 day ofFebruary 1998 JME

Jean-marc ERNAULT


(witness)Signed at KANATA this 15 day ofFebruary 1998 DW

Dave WATKINSON


(witness)

Signed at..... thisday of

.....1997

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(witness)

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Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).**FEE TRANSMITTAL**
For FY 2005☐ Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT** (\$) 510.00**Complete if Known**

| | |
|----------------------|--------------------|
| Application Number | 09/509,872 |
| Filing Date | September 11, 2000 |
| First Named Inventor | Ian H. Duncan |
| Examiner Name | NGUYEN, Steven H D |
| Art Unit | 2619 |
| Attorney Docket No. | 98784-US |

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METHOD OF PAYMENT (check all that apply)☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify):☒ Deposit Account Deposit Account Number: 13-1717 Deposit Account Name: MARKS & CLERK

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below☐ Charge fee(s) indicated below, except for the filing fee☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17☒ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

| Application Type | FILING FEES | | SEARCH FEES | | EXAMINATION FEES | | Fees Paid (\$) |
|------------------|-------------|-----------------------|-------------|-----------------------|------------------|-----------------------|----------------|
| | Fee (\$) | Small Entity Fee (\$) | Fee (\$) | Small Entity Fee (\$) | Fee (\$) | Small Entity Fee (\$) | |
| Utility | 300 | 150 | 500 | 250 | 200 | 100 | |
| Design | 200 | 100 | 100 | 50 | 130 | 65 | |
| Plant | 200 | 100 | 300 | 150 | 160 | 80 | |
| Reissue | 300 | 150 | 500 | 250 | 600 | 300 | |
| Provisional | 200 | 100 | 0 | 0 | 0 | 0 | |

2. EXCESS CLAIM FEES**Fee Description**

Each claim over 20 (including Reissues)

Fee (\$)

Small Entity Fee (\$)

Each independent claim over 3 (including Reissues)

50

25

Multiple dependent claims

200

100

360

180

Total Claims**Extra Claims****Fee (\$)****Fee Paid (\$)**

- 20 or HP =

x

=

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims**Extra Claims****Fee (\$)****Fee Paid (\$)**

- 3 or HP =

0

x

=

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(c)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets**Extra Sheets****Number of each additional 50 or fraction thereof****Fee (\$)****Fee Paid (\$)**

- 100 =

/ 50 =

(round up to a whole number) x

=

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Fees Paid (\$)

Other (e.g., late filing surcharge): APPEAL BRIEF

\$510.00

SUBMITTED BY

| | | |
|--------------------------------|---|------------------------|
| Signature | Registration No. 53,880 (Attorney/Agent) | Telephone 613-236-9561 |
| Name (Print/Type) S. Mark Budd | | Date April 4, 2008 |

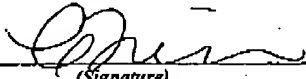
This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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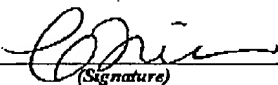
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APR 04 2008

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|---|-----------------------------------|-------------------------------|------------------------|
| CERTIFICATE OF TRANSMISSION BY FACSIMILE (37 CFR 1.8) | | | Docket No. 98784-US |
| Applicant(s): Ian DUNCAN, et al. | | | |
| Serial No. 09/509,872 | Filing Date September 11, 2000 | Examiner NGUYEN, Steven HD | Group Art Unit 26/9 |
| Invention: METHOD AND APPARATUS FOR FORWARDING PACKETS | | | |
| <p>I hereby certify that this <u>APPEAL BRIEF</u> <small>(Identify type of correspondence)</small></p> <p>is being facsimile transmitted to the United States Patent and Trademarks Office (Fax No. <u>571-273-8300</u>)</p> <p>on <u>April 4, 2008</u> <small>(Date)</small></p> <p style="text-align: right;">Carolynn Irvin <small>(Typed or Printed Name of Person Signing Certificate)</small></p> <p style="text-align: right;"> <small>(Signature)</small></p> <p style="text-align: center;">Note: Each paper must have its own certification of mailing.</p> | | | |

P16/REV01

APR 4 2008

| | | | |
|---|-----------------------------------|-------------------------------|------------------------|
| CERTIFICATE OF TRANSMISSION BY FACSIMILE (37 CFR 1.8) | | | Docket No. 98784-US |
| Applicant(s): Ian DUNCAN, et al. | | | |
| Serial No. 09/509,872 | Filing Date September 11, 2000 | Examiner NGUYEN, Steven HD | Group Art Unit 2649 |
| Invention: METHOD AND APPARATUS FOR FORWARDING PACKETS | | | |
| <p>I hereby certify that this <u>FEE TRANSMITTAL</u> <small>(Identify type of correspondence)</small></p> <p>is being facsimile transmitted to the United States Patent and Trademarks Office (Fax. No. <u>571-273-8300</u>)</p> <p>on <u>April 4, 2008</u> <small>(Date)</small></p> <p><u>Carolynn Irvin</u> <small>(Typed or Printed Name of Person Signing Certificate)</small></p> <p><u></u> <small>(Signature)</small></p> <p>Note: Each paper must have its own certification of mailing.</p> | | | |

P18/REV01